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FREAK COLOR INHERITANCE IN GRAHAM'S WATERSNAKE

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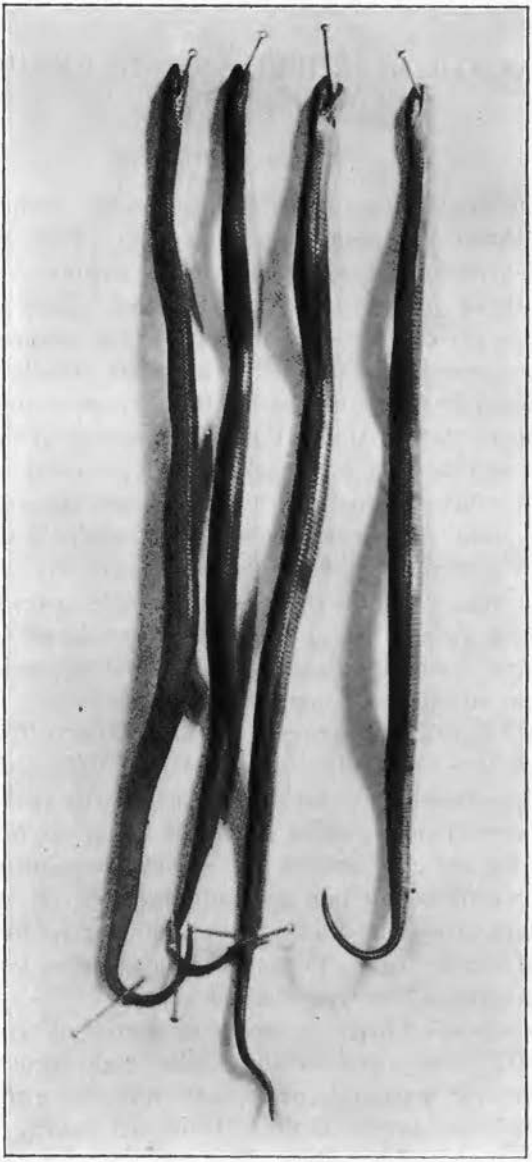
The genus Natrix, found in both hemispheres, comprises about 15 North American species and sub-species. They are rough-scaled, non-venomous serpents living in the vicinity of water and producing living young, often in large broods. They are closely related to the garter snakes. Some of them are commonly known as "Water moccasins." The different species usually range between two and four feet in length. They are especially abundant in the southern states. Among the smaller species of the genus is one known as Graham's watersnake *Natrix grahamii* (Baird and Girard). It seldom reaches a yard in length and appears not to be common in Iowa. The general color of this species is dark brown above, with a median light line bordered narrowly with black: and with a creamy white stripe low on the sides, edged below by a conspicuous zig-zag line at the place where dorsal scales meet ventral plates. Ventrally there is usually a partial median line of dark dots on an otherwise unmarked light surface.

On July 15, 1928 the writer received a 27-inch living female snake from Mrs. Elinor D. Robson of Des Moines, Iowa. She had herself captured it in a pond in one of the city parks.

Among several closely allied species of the genus Natrix color characters are the chief criteria for specific determination. This individual would not fit into any published key. It was almost uniform dark above and leaden below, showing no median light line and no lateral stripes. Fortunately for ophidian synonomy, it was not described as the type of a new species.

It finally identified itself by producing a litter of ten young on September 12. The young measured about eight inches in length at birth. Several, apparently perfectly formed and grown to normal size did not survive birth. Of the ten young, four were colored exactly like the mother. The other six were typical Graham's watersnakes in color and markings, corresponding exactly to published descriptions. None of the ten showed any color pattern inter-gradations.

The whole incident: a freak snake, bred before capture, pro-



ducing 60% apparently typical young and 40% of her own melanotic color pattern was so unusual as to seem worthy of record here. The writer does not feel qualified to discuss the genetic problems involved, but they appear interesting, and it was unfortunate that they could not have been further experimented upon. Experimental breeding work with snakes, however, involves many difficulties. This snake could not be induced to take food and had to be fed by hand. The same was true of the four living young. Finally all died.

Few snakes can be induced to breed in captivity; apparently on account of their timidity and feeling of strangeness. Many of them also present feeding problems that are at least perplexing.

The adult and two each of the two color patterns of her progeny have been presented to the United States National Museum at Washington.

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